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January 24, 2011 VIA E-MAIL AND U.S. MAIL

Ms. Dana Dean Utah Division of Oil, Gas and Mining 1594 West North Temple Salt Lake City, Utah 84116

> Work Plan - Hydrogeologic Study: Response to Division Order 10A, RE:

Paragraph IV, Item 2 (Task ID #3704) Genwal Resources, Inc., Crandall

Canyon Mine, C/015/0032

Dear Dana:

On behalf of Genwal Resources, Inc. ("Genwal"), attached is a work plan developed by Erik Petersen who has been retained by Genwal to study the source of mine water discharge at the Crandall Canyon Mine. This plan responds to your letter dated December 21, 2010 confirming that the Division of Oil, Gas and Mining ("Division") has accepted Genwal's proposal to perform a hydrogeologic investigation and submit a revised PHC to the Division by November 11, 2011. The enclosed work plan details the field work and actions to address Division Order No. 10, Task ID #3704. Although a description of the potential impacts of intercepted water will be provided, no water users have claimed impairment. Therefore, Genwal will not develop a water replacement plan as part of its PHC submission. See Castle Valley Special Service District v. Utah Board of Oil, Gas & Mining, 938 P.2d 248 (Utah 1996).

Please let me know if you have any questions or comments on the enclosed work plan.

Very truly yours,

Denise A. Dragoo

DD:jmc Enclosure

David Hibbs (via e-mail)

Dave Shaver (via e-mail)

Farley Wood (via e-mail) Erik Petersen (via e-mail)

Kevin Anderson, Esq. (via e-mail) Steve Alder, Esq. (via e-mail)

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DIV. OF OIL, GAS & MINING

Work Plan

The Utah Division of Oil, Gas and Mining has requested that Genwal Resources, Inc. update the statement of probable hydrologic consequences (PHC) of mining at the Crandall Canyon Mine. Specific items to be provided in the PHC update include the following:

- 1. A description of the magnitude and potential sources of sustained groundwater inflows to the mine,
- 2. A characterization of the nature of the groundwater system currently being intercepted in the mine,
- 3. A description of the potential impacts of intercepting groundwater in the mine including the potential for impact to State appropriated water rights, and
- 4. A description of potential impacts to the Crandall Creek stream channel resulting from sustained discharge, including potential impacts to stream channel morphology and aquatic habitat.

This work plan details the field work that will be accomplished in the study and how Genwal will meet the November 11, 2011 deadline.

Specific field investigations to be performed as part of the study plan include the following:

- The performance a hydrogeologic investigation of the region overlying and adjacent to the mine inflow area during the 2011 field season. This will include the identification and mapping of important geologic and hydrogeologic features, and may include the mapping of surface traces of the water-bearing faults identified in the underground Crandall Canyon Mine workings if these are visible at the land surface.
- The collection of supplemental discharge and field water quality data from springs and streams overlying and adjacent to mine inflow areas during the 2011 field season. This data will be compared to historical information from these sites.

- The collection of daily discharge-rate data from the Crandall Canyon Mine will continue during 2011. Analysis of recent and historic discharge-rate data from the Crandall Canyon Mine will be performed.
- An investigation of the stream channel morphology in Crandall Creek will be performed during the 2011 field season. Analysis of historic discharge data from Crandall Creek will also be performed.
- An inventory of state appropriated water rights overlying and adjacent to the mine inflow areas will be performed during the 2011 field season.
- Whole effluent toxicity (WET) testing of the mine discharge water will be performed during the 2011 field season.
- Macroinvertebrate studies of Crandall Canyon will be continued during the 2011 field season.

It should be noted that, due to the above-average early-season snowfall accumulations in the Wasatch Plateau, the commencement of the 2011 field season may be delayed. During typical years, the upper areas on East Mountain become snow-free and available for hydrogeologic field work during late June or Early July.

The information collected during the 2011 field season will be compiled and analyzed together with previously existing hydrogeologic data as part of a comprehensive hydrogeologic investigation. The results of the investigation, which will address the specific items requested by the Division, will be presented to the Division as an update to the Crandall Canyon Mine PHC. The updated PHC document will be provided to the Division by November 2011.